OWL® Intuition-c

Residential Combi Boiler Control

User Manual

For OWL Intuition-c installations fitted with battery powered Room Sensor [RBT-3C] with wiring to boiler

Room Sensor [RBT-3C] with Network OWL

© 2 Save Energy Limited 2012

Table of Contents

1.	Introduction	3
2.	Before You Continue	3
3.	Step By Step	3
4.	Operational Overview	3
5.	Heating Time Clock Modes of Operation	5
6.	Heating Time Clock Setting	5
7.	Web Dashboard Controls	7
8.	Room Sensor Button and LED Functionality	8
9.	Account Settings	10
10.	Other Heating Settings	11
11.	Important Information	12
12.	Battery Replacement	13

© 2 Save Energy Limited 2012

1. Introduction

OWL Intuition-c Residential Combi Boiler Control is a part of the OWL Intuition range of cloud connected monitoring and control products. Its operation is dependant upon being paired to the broadband Internet connected Network OWL (supplied separately).

This battery powered version of the Room Sensor [RBT-3C] is designed for use with a Combi boiler with existing wiring to the Room Sensor location (see separate Installation Instructions).

The Room Sensor provides both room thermostat and programmer / time clock functionality. Basic day-to-day user operation changes can be made using the three buttons on the Room Sensor. Additionally you are provided with comprehensive yet intuitive, easy to use controls via the OWL Intuition web dashboard, from any Internet connected computer anywhere in the World. iPhone and Android smartphone apps are also available for free download.

2. Before You Continue

This manual assumes that your Network OWL Gateway has been successfully installed and your OWL Intuition account has been registered. Please refer to the manual supplied with the Network OWL for further instructions if required. You will need your Username and Password to be able to log into the OWL web dashboard. If you also have an OWL Intuition Electricity monitoring Transmitter to install then you should pair this device before proceeding. Please refer to the Instructions provided with that product for details.

3. Step By Step

For a newly installed OWL Intuition-c system it is essential that the following steps are all completed. Please read elsewhere in this manual for detailed instructions.

1. Install Network OWL and create OWL account. (Separate document)
2. Install Room Sensor. (Separate document)
3. Set up Time Clock to suit your requirements. (Section 6)
4. Adjust any default settings to suit your requirements. (Section 9 & 10)

4. Operational Overview

Once installed and configured your OWL Intuition-c system should give you many years of intelligent, energy-saving, remotely operable Central Heating control.

The battery powered Room Sensor provides a physical user interface, a highly accurate digital temperature sensor, a low power latching relay (boiler on/off control) and a radio connected micro computer running OWL's latest advanced heating control software.

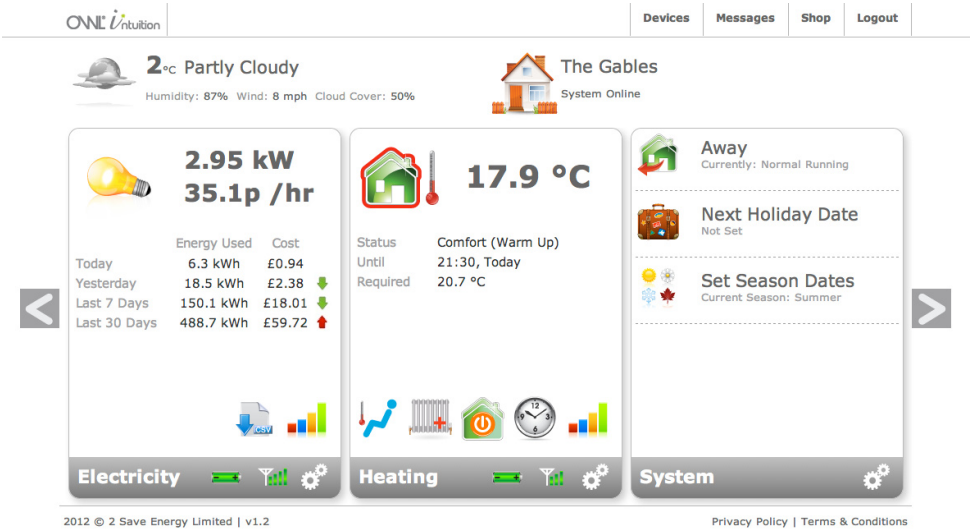
The Room Sensor is typically installed in your lounge or hall and is wirelessly paired with the Internet connected Network OWL Gateway device. Being battery powered it does not need mains power wiring to be installed. This version does however require

© 2 Save Energy Limited 2012

wiring back to the boiler. The latching relay within the Room Sensor switches the wired on/off control to the boiler.

The Network OWL and Room Sensor internal firmware (software) can be upgraded over the Internet / radio link from OWL's servers - so future improvements, new features or any software updates can be applied without requiring user intervention.

The Room Sensor can be configured and controlled using an intuitive web dashboard across the Internet through a standard web browser on any Internet connected computer, tablet or smartphone from anywhere in the World.



OWL Intuition Web Dashboard - (With optional Electricity Monitoring)

The Room Sensor automatically obtains the current date and time from OWL's servers and will automatically adjust itself for British Summer Time and Greenwich Mean Time changes (daylight saving time). It stores a heating time clock for up to 10 x Comfort periods per day. This will continue to run indefinitely, even during periods of Internet down time. You can set Season dates to ensure your heating is turned off during the Summer. Set Holiday dates and times so that you don't waste energy whilst you are away from home, but to ensure it will be nice and warm for your return. Activate heating Boost, switch between Comfort, Standby or Away modes by either pressing the Room Sensor buttons or using your office computer whilst you are at work or maybe using your iPhone whilst enjoying an evening out with friends. OWL Intuition brings your home into the Internet Age!

© 2 Save Energy Limited 2012

5. Heating Time Clock Modes of Operation

Your OWL Intuition Heating Control manages the temperature of your home at all times (24 hours per day, 7 days per week, 365 days of the year). It is always in one of the following four modes:

1. **Comfort Period** – Like a conventional heating control, the Heating Time Clock initially defines at what times you would like your home to be maintained at a comfortable Target temperature.
   a. **Warm Up** - Unlike most heating controls, OWL Intuition is intelligent and calculates at what time it needs to switch the heating on to be at your Target temperature for the Start Time you have defined. OWL Intuition takes into account different factors such as your current local weather conditions.
   b. **Cool Down** - Likewise OWL Intuition will determine when to switch the heating off, in advance of the Comfort heating period ending.

   Intelligent Warm Up and Cool Down take the guesswork out of making your home comfortable for the times you need, whilst saving energy.
2. **Standby Period** – In normal day-to-day operation, whenever OWL Intuition is not in a Comfort Period, it is in Standby mode. During these periods OWL Intuition will maintain a single Target temperature (configurable). For best economy your Standby temperature would normally be set at a low enough level such that the Standby heating will only come on during exceptionally cold weather.
3. **Away** – When you are away from your home for an extended period of time, OWL Intuition can be put into a special Away mode. When in Away mode, OWL Intuition will maintain a frost protection temperature (configurable).
4. **Holiday** – Similar to Away mode, OWL Intuition can be preset as to when you will be away on holiday (start date, start time, return date, return time). When in Holiday mode, OWL Intuition will maintain a single Target temperature (configurable).

6. Heating Time Clock Setting

The Heating Time Clock defines the periods during which your home is automatically heated and to what temperature. These periods are called Comfort Periods (see Heating Time Clock Modes of Operation above). OWL Intuition will intelligently calculate what time to switch the boiler on and off to maintain the target temperature for the whole of the Comfort Period. Each day of the week can be programmed with up to 10 different Comfort Periods.

The default Time Clock settings are shown in the table overleaf. These can be modified using the OWL Intuition web dashboard.

1. On the Heating widget click on the "Clock" icon. This opens the Heating Time Clock widget.
2. Select the day you wish to amend, then click an option on the line you wish to amend.
   a. Pencil icon to edit the line.
   b. Cross icon to delete the line.

   Amend details within the Edit box as required then click on the Tick icon to update the table.
3. To add a new line simply fill in the Add box with the required details and click on the Tick icon.

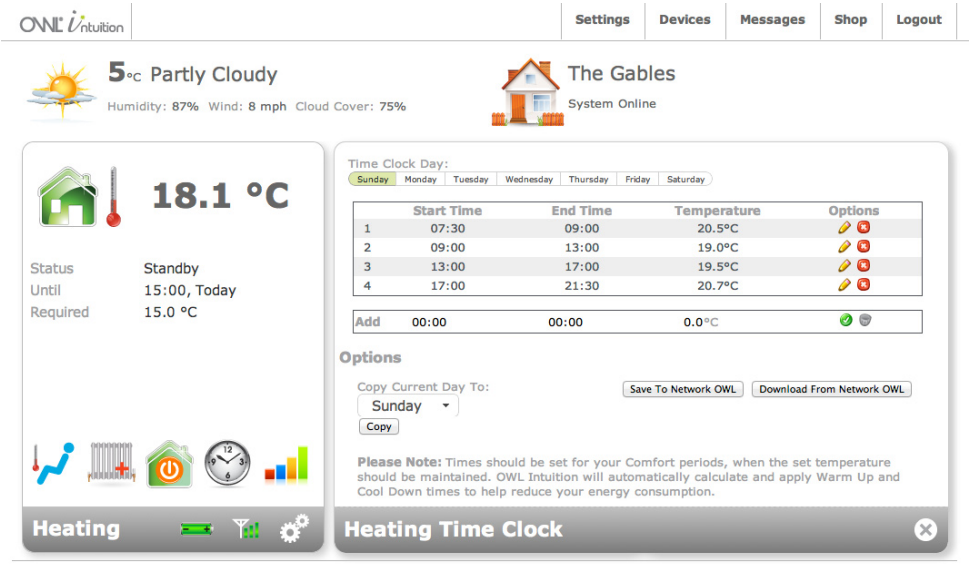
© 2 Save Energy Limited 2012

4. When you are happy with your changes you can use the Copy Current Day feature to quickly duplicate to other days.
5. **IMPORTANT:** When you have finished making changes you must save them to your Network OWL by clicking on the "Save To Network OWL" button.

Preset Heating 'Comfort' Time Clock Settings

Monday to Friday		
Start Time	**End Time**	**Temperature**
07:00	08:30	18°C
16:30	22:30	20°C
Saturday & Sunday		
Start Time	**End Time**	**Temperature**
07:30	10:00	18°C
16:30	22:30	20°C

Note: Outside of these preset heating 'Comfort' periods, the Room Sensor will be in Standby mode (15°C - configurable).



OWL Intuition Web Dashboard - Heating Time Clock

© 2 Save Energy Limited 2012

7. Web Dashboard Controls

Comfort
If you are feeling cold and would like the heating is not on then you should click on the Comfort icon. The heating will then remain in Comfort mode until the end of the next Time Clock scheduled period.

Heating Boost
Clicking on the Heating Boost icon will turn the heating on (if necessary) with a target of current room temperature + 1°C for one hour and then revert to previous mode and settings. You can configure temperature and time to suit your personal preferences (Heating Settings).

Standby
If you are feeling too warm, or leaving your home unoccupied and would like the heating to turn off then you should click on the Standby button. The heating will remain in Standby mode until the start of the next Time Clock scheduled period.

Time Clock
Opens the Heating Time Clock widget where you set the Comfort Periods that you desire for each day of the week. OWL Intuition will intelligently calculate what time to switch the boiler on and off to maintain the target temperature for the whole of the Comfort Period.

Heating Graphs
Displays temperatures for the past 24 hours. *Temperature* shows the Room Sensor temperature. *Required Temperature* shows the actual heating Target temperatures (includes Time Clock, Warm Up, Cool Down and manual interventions). *External Temperature* is from Internet sourced weather.

Away
When you are away from your home for an extended period of time, OWL Intuition can be put into a special Away mode. When in Away mode, OWL Intuition will maintain a frost protection temperature whilst you are away. You can configure the temperature to suit your personal preferences (Heating Settings).

Next Holiday Date
Let OWL Intuition know when you are going to be away on holiday and it will remember to manage your heating for you from when you leave until you return. The system will enter a special Away mode for the duration and maintain your chosen temperature. You can configure the temperature to suit your personal preferences (Heating Settings).

© 2 Save Energy Limited 2012

8. Room Sensor Button and LED Functionality

The Room Sensor has three buttons, each with an associated indicator LED. They provide quick access to the most important heating control functions without needing to use your computer or smartphone.

Each button can have one or two related functions. Selection of the function is based upon how long the button is pressed. A short press (up to 2 seconds) will have one meaning and a long press (between 3 seconds and 8 seconds) will have a second meaning.

Comfort (+) Button and LED Operation

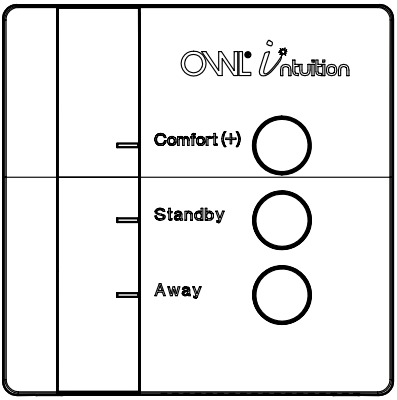
If you are feeling cold and would like the heating to come on then you should press the Comfort (+) button. The (+) means "boost".

Comfort (+) Button Press Functionality

Heating Mode	Comfort (+) Short Press	Comfort (+) Long Press
Currently in Comfort	No action	Boost 1°C for 1 hour (configure in Heating Settings)
Currently in Standby	Enter Comfort mode until end of next Comfort Period	Boost 1°C for 1 hour (configure in Heating Settings)
Currently in Away or Holiday	Enter current Time Clock defined mode	Enter Comfort mode until end of next Comfort Period

Comfort (+) LED Meanings

Comfort (+) LED	Meaning
Single flash every 10 seconds	In Comfort Period - below target temperature
Double flash every 10 seconds	In Comfort Period - at or above target temperature
On solid for 5 seconds	Short button press confirmation
Flashing for 5 seconds	Long button press confirmation



Comfort (+) Button

If you are feeling cold and would like the heating to come on then you should press the Comfort (+) button. The (+) means "boost".

Standby Button

If you are feeling warm, or leaving your home unoccupied and would like the heating to turn off then you should press the Standby button.

Away Button

If you are leaving your home unoccupied for an extended period of time and would like the heating to turn off then you should press the Away button (long press required).

© 2 Save Energy Limited 2012

Standby Button and LED Operation

If you are feeling warm, or leaving your home unoccupied and would like the heating to turn off then you should press the Standby button.

Standby Button Presses

Heating Mode	Standby Short Press	Standby Long Press
Currently in Comfort	Enter Standby mode until end of current Comfort Period	No action
Currently in Standby	No action	No action
Currently in Away or Holiday	No action	No action

Standby LED Meanings

Standby LED	Meaning
Single flash every 10 seconds	In Standby Period
On solid for 5 seconds	Short button press confirmation
Flashing for 5 seconds	Long button press confirmation

Away Button and LED Operation

If you are leaving your home unoccupied for an extended period of time and would like the heating to turn off then you should press the Away button (long press required).

Away Button Presses

Heating Mode	Away Short Press	Away Long Press
Currently in Comfort	No action	Away Target temperature until Comfort is pressed
Currently in Standby	No action	Away Target temperature until Comfort is pressed
Currently in Away or Holiday	No action	No action

Away LED Meanings

Standby LED	Meaning
Single flash every 30 seconds	In Away or Holiday mode
Flashing for 5 seconds	Long button press confirmation

© 2 Save Energy Limited 2012

9. Account Settings

Account settings can be accessed by clicking on Settings on the menu bar. It is important that you enter the actual Energy Performance Certificate ("EPC") rating for your home if you have one. If you don't have an EPC just estimate how you would rate the energy efficiency of your property on the A to G scale below.

Be sure to click the "Save" button before closing the window.

Property EPC / Energy Efficiency Rating

Rating	Score	Description
A	92+	Exceptional
B	81 - 91	Above Average
C	69 - 80	
D	**55 - 68**	**UK Average**
E	39 - 54	
F	21 - 38	Below Average
G	1 - 20	

© 2 Save Energy Limited 2012

10. Other Heating Settings

You can make any necessary changes to the various Heating settings by clicking on the "gear wheels" icon on the grey Heating widget title bar.

The various settings are detailed below, the default values are highlighted in **Bold**. Be sure to click the "Save" button before closing the window.

Target Temperatures

Mode	Default	Minimum	Maximum	Units
Comfort Period	As set in Heating Time Clock	5	35	°C
Standby	**15**	5	25	°C
Away	**5**	2	15	°C
Holiday	**5**	2	15	°C

Heating Features

Feature	Description
Boost Temperature Increment	This is the temperature that the current Target temperature will be increased by when the "Boost" feature is activated.

Default	Minimum	Maximum	Units
1.0	0.5	5.0	°C

Feature	Description
Boost Temperature Period	This is the time period that the "Boost" temperature will be applied for.

Default	Minimum	Maximum	Units
60	15	120	Minutes

© 2 Save Energy Limited 2012

11. Important Information

- OWL Intuition-c is designed to intelligently help you save energy and money. Actual savings depend upon individual home and heating system characteristics, lifestyle / occupancy patterns and set up preferences.
- The Boost feature adds the Boost Temperature Increment to either the current room temperature or to the current target temperature, whichever is higher.
- In the unlikely event that the Room Sensor loses knowledge of the correct date and time, then the heating will continue to operate however it is likely to be out of step with the actual current day and time. This will continue until such a time as the date and time information can be downloaded from the OWL servers again. This could occur if the Network OWL is not connected to the Internet after the batteries have been replaced. If this occurs, use the Comfort and Standby buttons to manually bring the heating on / off until the Internet connection is restored to the Network OWL.
- If the Room Sensor batteries are allowed to get too low, then the heating will no longer be able to switch on. This could be a risk for elderly and infirm householders. Please ensure batteries are replaced as soon as possible after the warning messages are given.
- In order to ensure long battery life, the Room Sensor only communicates over the radio link to the Network OWL once every time period as shown in the table below. This means that it can take a while for web dashboard or smart phone instigated commands, such as clicking on the Comfort icon, to take effect. This is normal operation. Button presses on the actual Room Sensor will respond immediately.

Room Sensor Radio Update Rate

Mode	Update Rate	Units
Comfort Period	33	Seconds
Standby	63	Seconds
Away / Holiday / Summer	303	Seconds

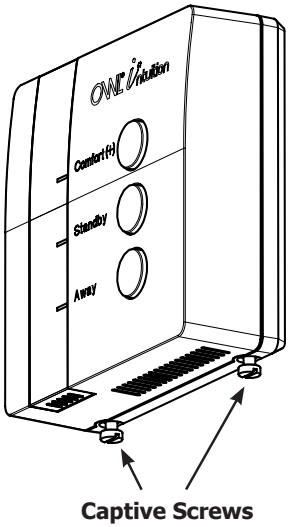
After the initial potentially slow response, the Room Sensor will remain "ready for action" for the following 2 minutes. Web dashboard commands during this period should take effect within 10 seconds.

© 2 Save Energy Limited 2012

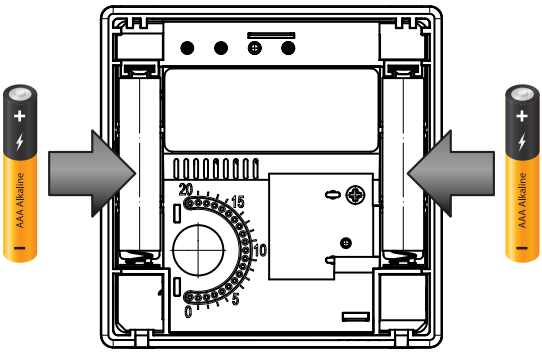
12. Battery Replacement

The Room Sensor runs on 2 x AAA size Alkaline non rechargeable batteries and depending upon usage is designed to give a battery life of approximately 12 to 18 months. Through the OWL Intuition web dashboard you can see the current battery level for the Room Sensor at any time. When the batteries are nearing the end of their life the battery symbol will turn red and you will get a message pop-up each time you log in to warn you. As a final warning the Away LED will start to flash on/off every second. When you see one of these warnings you should replace the batteries as soon as possible.

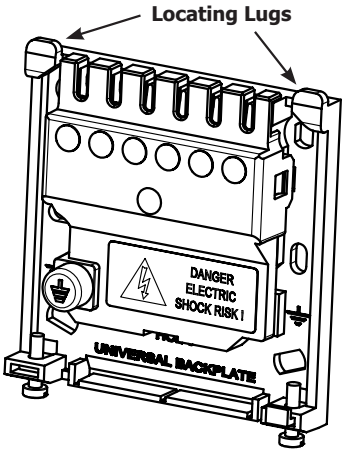
To change the batteries it is necessary to remove the Room Sensor from the wall.



1. Undo the two captive screws at the base of the Room Sensor and swing the Room Sensor out at the bottom then up and away from the backplate.
2. Remove the old batteries and replace them with two new high quality, high capacity AAA size Alkaline batteries, ensuring that they are fitted correctly as indicated by the diagram below. Note they both face in the same direction.



3. Once the batteries are fitted, re-fit the Room Sensor to the backplate by engaging with the lugs at the top of the backplate, then carefully swing the Room Sensor down and push it carefully back into its plug-in terminal connectors. Locate over the captive screws at the base of the backplate and tighten them so that the Room Sensor is locked into position.



4. Login to the OWL Intuition web dashboard and check that the battery level indicator is now fully green (100%).
5. **IMPORTANT: If the batteries are allowed to get too low the heating will no longer be able to switch on. This could be a risk for elderly and infirm householders.**

© 2 Save Energy Limited 2012

© 2 Save Energy Limited 2012

© 2 Save Energy Limited 2012

Customer Support
If you have any further questions please check our frequently asked questions at:
http://www.theowl.com/faqs.html
You can also email us at: **customer.services@theowl.com**
(please ensure you state your Network OWL MAC ID)

2 Save Energy Limited operate a policy of continuous development and improvement, therefore the content of this document is subject to change without notice.

Document Version 1.0 - December 2012

© 2 Save Energy Limited 2012